



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/821,932	03/30/2001	Dennis Boyd	26422/25020	8175

21888 7590 06/10/2004

THOMPSON COBURN, LLP
ONE US BANK PLAZA
SUITE 3500
ST LOUIS, MO 63101

EXAMINER

HO, THOMAS Y

ART UNIT PAPER NUMBER

3677

DATE MAILED: 06/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/821,932

Applicant(s)

BOYD, DENNIS

Examiner

Thomas Y Ho

Art Unit

3677

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 March 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-5,7-23,27 and 30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-5,7-23,27 and 30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Art Unit: 3677

DETAILED ACTION

Status of Claims

Claims 1, 3-5, 7-23, 27, and 30 are pending. Claims 2, 6, 24-26, and 28-29 have been withdrawn or cancelled.

Claim Objections

Claims 7, 10-12, and 28-29 are objected to because of the following informalities:

As to claim 7, the limitation "the ribs" in the second compartment lacks antecedent basis.

As to claims 10-12, the limitations "the ribs of the second compartment" lacks antecedent basis.

As to claims 28-29, these claims were cancelled in a previous action, and a canceled claim can be reinstated only by a subsequent amendment presenting the claim as a new claim with a new claim number.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3, 5, 7-9, 12-14, 16-17, and 21-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pekar US5638565 in view of Cope US5727270, and further in view of Reed US2604641.

As to claim 1, Pekar discloses, an air mattress comprising: a first inflatable compartment

Art Unit: 3677

"13" having a length and width, when inflated, sufficient to support a human body, said compartment having a top, a bottom, and sides, said first compartment having at least two layers "40" and "42" of thermoplastic material, one layer of thermoplastic material forming the top of the compartment and the second forming the bottom; and a second inflatable compartment "11" disposed on the top of the first inflatable compartment and secured thereto at least along a portion of the first inflatable compartment at a point spaced inwardly from the sides of said first inflatable compartment, said second compartment extending generally the length and width of the top of the first compartment, said second compartment being of a size, when inflated, sufficient to support a human body; said second compartment having at least two layers "40" and "42" of thermoplastic material distinct from the two layers of thermoplastic material forming the first compartment; said second compartment being inflatable to give the top of the air mattress a soft, pillow-like appearance and feel, wherein said first compartment and said second compartment are secured together adjacent a fluid communication channel "22" the fluid communication channel providing fluid communication between the first and second inflatable compartments to enable fluid in one of the first and second inflatable compartments to flow into the other of the first and second inflatable compartments. The difference between the claim and Pekar is the claim recites the material is vinyl, and also a plurality of ribs extending between the top and the bottom of the first compartment. Cope discloses an inflatable assembly similar to that of Pekar. In addition, Cope further teaches the equivalence of thermoplastic sheets and vinyl (col.3, ln.34-40). It would have been obvious to one of ordinary skill in the art, having the disclosures of Pekar and Cope before him at the time the invention was made, to modify the thermoplastic sheets of Pekar to be replaced with vinyl, as in Cope, to obtain vinyl

Art Unit: 3677

compartments. One would have been motivated to make such a combination because inasmuch as the references disclose these elements as art recognized equivalents, it would have been obvious to one of ordinary skill in the exercise art to substitute one for the other. In re Fout, 675 F.2d 297, 301, 213 USPQ 532, 536 (CCPA 1982). Reed discloses an inflatable mattress similar to that of Pekar. In addition, Reed further teaches a plurality of ribs "25" extending between the top and the bottom of the first compartment. It would have been obvious to one of ordinary skill in the art, having the disclosures of Pekar and Reed before him at the time the invention was made, to modify the first compartment of Pekar, to have the ribs of Reed, to obtain ribs within each cell. One would have been motivated to make such a combination because the ability to provide additional strength would have been achieved, as taught by Reed (col.4, ln.1-10).

As to claim 3, Pekar discloses, wherein the bottom layer "42" of the second compartment "11" is secured to the top of the upper layer "42" of the first compartment.

As to claim 5, Pekar discloses, wherein the first "13" and second "11" compartments are in fluid communication with each other.

As to claim 7, Reed teaches, wherein the ribs extend transversely across the second compartment, said second compartment having channels for flow of air around and through the ribs (col.3, ln.65-75).

As to claim 8, Pekar discloses, wherein the first "13" and second "11" compartments are substantially free to move with respect to each other except at the periphery thereof.

As to claim 9, Reed teaches, wherein the first compartment has ribs "25" extending between the layers of vinyl making up the first compartment.

Art Unit: 3677

As to claim 12, Cope teaches, wherein the ribs of the first and second compartments are composed of vinyl.

As to claim 13, Pekar discloses, wherein the first compartment "13" and the second compartment "11" are sealed together at a point "48" (see Figure I below) recessed from the periphery of the first compartment, thereby permitting limited relative movement of the second compartment with respect to the first compartment along the edge of the mattress. The compartments "11" and "13" are free to move relative to one another except at points where the surfaces of the compartments are joined (note that the claim does not specify the type of movement or direction).

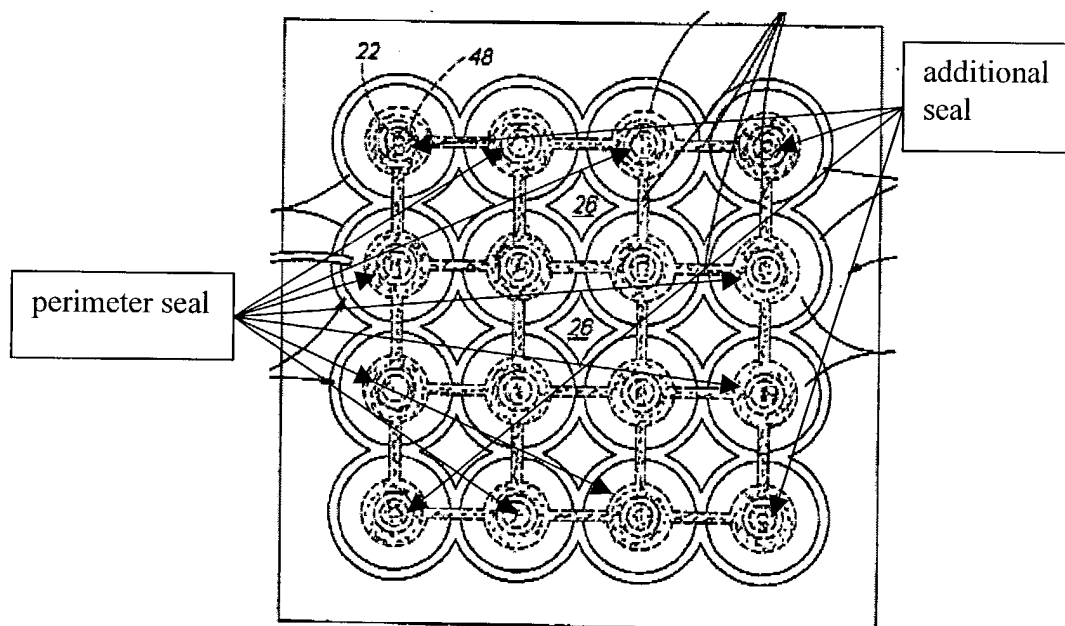


Figure I

As to claim 14, Pekar discloses, wherein the seal "48" is recessed approximately one inch.

Art Unit: 3677

As to claim 16, Pekar discloses, wherein the only access to the interior of the first and second compartments for inflation of both compartments is through a single valve "24".

As to claim 17, Pekar discloses, wherein the single valve "24" is disposed in a wall of the first compartment "11" or "13". As evidenced by Figure 3, either of the compartments "11" or "13" could be the first or second compartment.

As to claim 21, Pekar discloses, wherein the second compartment "11" has a single peripheral seam "46".

As to claim 22, Pekar discloses, wherein the second compartment "14" (see Figure 9) has at least two seams "46" and "80".

As to claim 23, Pekar discloses, wherein the two layers "40" and "42" of the second compartment are secured together at a plurality of discontinuous positions "18" and "46". The positions are discontinuous near the elements "20".

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pekar US5638565 in view of Cope US5727270, and further in view of Reed US2604641, and further in view of Saltness US3251075.

As to claim 4, Pekar discloses, the air mattress. The difference between the claim and Pekar is the claim recites, wherein the second compartment has a soft, non-vinyl fabric secured to the top thereof. Saltness discloses an inflatable cushion similar to that of Pekar. In addition, Saltness further teaches that the whole cushion, including the second compartment, has a soft, non-vinyl fabric secured to the top thereof (col.2, ln.10-25). It would have been obvious to one of ordinary skill in the art, having the disclosures of Pekar and Saltness before him at the time the invention was made, to modify the second compartment of Pekar to have a fabric covering,

Art Unit: 3677

as in Saltness, to obtain a fabric-covered inflatable cushion. One would have been motivated to make such a combination because the ability to pad the cushion would have been obtained, as taught by Saltness (col.2, ln.10-25).

Claims 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pekar US5638565 in view of Cope US5727270, and further in view of Reed US2604641, and further in view of Chung US6332760.

As to claim 18, Pekar discloses, the air mattress. The difference between the claim and Pekar is the claim recites, further including a pump for inflating and/or deflating the first and second compartments (although Pekar does inherently require some kind of pump at tube 24 to inflate/deflate the device). Chung discloses an inflatable cushion similar to that of Pekar. In addition, Chung further teaches a pump for inflating and/or deflating the first and second compartments. It would have been obvious to one of ordinary skill in the art, having the disclosures of Pekar and Chung before him at the time the invention was made, to modify the air mattress of Pekar to have a pump, as in Chung, to obtain an inflatable mattress having a pump. One would have been motivated to make such a combination because the ability to inflate the cushion would have been obtained, as taught by Chung (col.1, ln.10-13).

As to claim 19, Pekar discloses, the air mattress. Chung teaches, wherein the pump is permanently attached to a valve disposed in a wall of the first or second compartment.

As to claim 20, Pekar discloses, the air mattress. Chung teaches, wherein the pump is removably attachable to a valve disposed in a wall of the first or second compartment.

Claims 1, 3-5, 7-12, 15, 18-19, 21-23, 27, and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wolfe US5598593 in view of Cook US6148461.

As to claim 1, Wolfe discloses, an air mattress comprising: a first inflatable compartment "12" having a length and width, when inflated, sufficient to support a human body, said compartment having a top, a bottom, and sides, said first compartment having at least two layers "13" and "14" of vinyl, one layer "13" of vinyl forming the top of the compartment and the second "14" forming the bottom; a plurality of ribs "30" extending between the top and the bottom of the first compartment; and a second inflatable compartment "20" disposed on the top of the first inflatable compartment and secured thereto at least along a portion of the first inflatable compartment "12" at a point spaced inwardly from the sides of said first inflatable compartment, said second compartment "20" extending generally the length and width of the top of the first compartment, said second compartment being of a size, when inflated, sufficient to support a human body; said second compartment having at least two layers "21" and "22" (or "21" and "23") of vinyl distinct from the two layers "13" and "14" of vinyl forming the first compartment; said second compartment being inflatable to give the top of the air mattress a soft, pillow-like appearance and feel. The difference between the claim and Wolfe is the claim recites, wherein said first compartment and said second compartment are secured together adjacent a fluid communication channel the fluid communication channel providing fluid communication between the first and second inflatable compartments to enable fluid in one of the first and second inflatable compartments to flow into the other of the first and second inflatable compartments. Wolfe discloses that a main purpose of his invention is to be able to adjust inflation of the upper chamber, while the lower chamber remains more rigid (col.1, ln.55-67), and further also discloses that the upper and lower chambers may be divided into several inflatable chambers (col.7, ln.5-12). Cook discloses an inflatable cushion similar to that of

Art Unit: 3677

Wolfe, with the Cook device showing upper and lower chambers 12,13, wherein the lower layer 13 is kept at a higher pressure than the upper layer 12 (col.3, ln.15-30) which is a characteristic desirable in Wolfe, and wherein the upper and lower layers are divided into several chambers (also desirable in Wolfe). Cook further teaches, wherein said first compartment 13 and said second compartment 12 are secured together adjacent a fluid communication channel 33 the fluid communication channel providing fluid communication between the first and second inflatable compartments to enable fluid in one of the first and second inflatable compartments to flow into the other of the first and second inflatable compartments. It would have been obvious to one of ordinary skill in the art, having the disclosures of Wolfe and Cook before him at the time the invention was made, to modify the compartments of Wolfe to have a fluid communication channel, as in Cook, to obtain a passage for fluids between the first and second compartments. One would have been motivated to make such a combination, because the ability to provide a low air loss support system to prevent bed sores on patients, would have been achieved, as taught by Cook (col.1, ln.10-35).

As to claim 3, Wolfe discloses, wherein the bottom layer of the second compartment is secured to the top of the upper layer of the first compartment.

As to claim 4, Wolfe discloses, wherein the second compartment "20" has a soft, non-vinyl fabric secured to the top thereof (see Figure 10; col.4, ln.32-40).

As to claim 5, Cook teaches, wherein the first and second compartments are in fluid communication with each other.

Art Unit: 3677

As to claim 7, Wolfe discloses, wherein the ribs "34" extend transversely across the second compartment "20", said second compartment having channels (between the ends of 34 and the side wall of 20) for flow of air around and through the ribs.

As to claim 8, Wolfe discloses, wherein the first and second compartments are substantially free to move with respect to each other except at the periphery thereof (see Figure 4B).

As to claim 9, Wolfe discloses, wherein the first compartment "12" has ribs "30" extending between the layers of vinyl "13,14" making up the first compartment.

As to claim 10, Wolfe discloses, wherein the ribs "30" of the first compartment "12" are substantially taller than the ribs "34" of the second compartment "20".

As to claim 11, Wolfe discloses, wherein the ribs "30" of the first compartment "12" are at least twenty-five per cent taller than the ribs "34" of the second compartment "20" (see Figure 2).

As to claim 12, Wolfe discloses, wherein the ribs "30" and "34" of the first and second compartments are composed of vinyl (col.4, ln.40-48).

As to claim 15, Wolfe discloses, wherein the vinyl layers "21" and "22" of the second compartment "20" are connected together by a first vinyl strip "23" extending between the layers along the periphery of the second compartment, and the vinyl layers "13" and "14" of the first compartment are connected together by a second vinyl strip "15" extending between the layers along the periphery of the first compartment.

As to claim 18, Cook teaches, further including a pump "25" for inflating and/or deflating the first and second compartments.

Art Unit: 3677

As to claim 19, Cook teaches, wherein the pump "25" is permanently attached to a valve disposed in a wall of the first or second compartment.

As to claim 21, Wolfe discloses, wherein the second compartment "20" has a single peripheral seam "20'".

As to claim 22, Wolfe discloses, wherein the second compartment has at least two seams (the second compartment "20" has several seams throughout the periphery and interior).

As to claim 23, Wolfe discloses, wherein the two layers of the second compartment "20" are secured together at a plurality of discontinuous positions.

As to claim 27, Wolfe discloses, an air mattress comprising: a first inflatable compartment "12" having a top, a bottom, and sides, said first compartment having at least two layers "13" and "14" of material, one layer of material forming the top of the first compartment and the second layer of material forming the bottom of the first compartment; a second inflatable compartment "20" having a top and a bottom, the second compartment having at least two layers of material "21" and "22", one layer of material forming the top of the second compartment, the second layer of material forming the bottom of the second compartment, the second compartment being positioned above the first compartment; a perimeter seal "18" connecting the top of the first compartment to the bottom of the second compartment, the perimeter seal being spaced inwardly from the sides of the first compartment (see the perimeter seal in Figure 2), and a plurality of ribs "30" and "34" extending between the top and bottom of one of the first and second compartments. Cook teaches a fluid communication channel "33" providing fluid communication between the first compartment "13" and the second compartment "12" to enable

Art Unit: 3677

fluid in one of the first and second inflatable compartments to flow into the other of the first and second compartments.

As to claim 30, Wolfe discloses, an air mattress comprising: a first inflatable compartment "12" having sides with a length and a width and defining a periphery; a second inflatable compartment "20" extending generally the length and width of the periphery, the second inflatable compartment having a top and a bottom; a perimeter seal "18" connecting said first inflatable compartment to said second inflatable compartment, wherein said perimeter seal is spaced inwardly from the periphery (see Figure 2), a plurality of ribs "30" and "34" extending between the top and bottom of the second compartment. Cook teaches a fluid communication channel "33" providing fluid communication between the first "13" and second "12" inflatable compartments to enable fluid in one of the first and second inflatable compartments to flow into the other of the first and second inflatable compartments.

Claims 18 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wolfe US5598593 in view of Cook US6148461, and further in view of Chung US6332760.

As to claim 18, Wolfe fails to disclose or suggest, further including a pump for inflating and/or deflating the first and second compartments. Chung discloses an inflatable mattress similar to that of Wolfe. In addition, Chung further teaches the use of a removable or detachable pump "20" to inflate and deflate the chamber. It would have been obvious to one of ordinary skill in the art, having the disclosures of Wolfe and Chung before him at the time the invention was made, to modify the inflatable mattress of Wolfe to have a detachable pump, as in Chung, to obtain a means for inflation. One would have been motivated to make such a combination

Art Unit: 3677

because the ability to pump the chamber full of air easily and quickly would have been achieved, as taught by Chung.

As to claim 20, Chung teaches, wherein the pump is removably attachable to a valve disposed in a wall of the first or second compartment.

Response to Arguments

Applicant's arguments with respect to Pekar have been considered but are moot in view of the new ground(s) of rejection. Reed shows inflatable compartments comprised of cells having ribs within the cells, and also motivation for a teaching. In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

Applicant's arguments filed 3/18/04 have been fully considered but they are not persuasive. Applicant argues that the combination of Wolfe and Cook is impermissible hindsight because "there can be no motivation for a modification of the simple structure of Wolfe (separate inflatable compartments) to include the compressor, one way valves, and relief holes of Cook." In response, Wolfe is an inflatable air bed "used in the health care industry, for example, as a patient mover or stretcher, or as a therapeutic mattress...inflatable air mattresses include temperature and/or pressure regulation systems, or other devices to provide the user with comfort and convenience." as disclosed by Wolfe (col.1, ln.10-20). Cook teaches an inflatable mattress

Art Unit: 3677

having a compressor, one-way valves, and relief holes, to help prevent bed sores for patients in hospitals (health care industry). This is the necessary motivation to combine the teachings of Wolfe and Cook.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

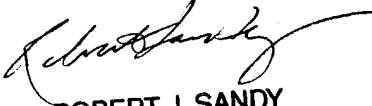
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas Y Ho whose telephone number is (703)305-4556. The examiner can normally be reached on M-F 10:00AM-6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, J. J Swann can be reached on (703)306-4115. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 3677

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TYH



ROBERT J. SANDY
PRIMARY EXAMINER